WHAT IS CLAIMED IS:

1. A data transmitting device comprising:

a data transmitting and receiving part capable of communicating with a second communication system and transmitting data destined for the second communication system in data frames to the second communication system, wherein

the second communication system receives, from the second communication system through the data transmitting and receiving part, information indicative of a first data amount which can be successively received by the second communication system; and

the data transmitting device successively transmits, to the second communication system through the data transmitting and receiving part, data frames whose amount corresponds to one data amount of the first data amount and a second data amount which can be successively transmitted by a data transmitting and receiving part of the second communication system, the one data amount being no greater than the other data amount.

2. The data transmitting device as set forth in claim 1 wherein,

the second data amount is a data amount corresponding to the storage capacity of a temporary memory for data transmission of the data transmitting and receiving part while the first data amount is a data amount corresponding to the storage capacity of a temporary memory for data reception of the second communication system.

3. The data transmitting device as set forth in claim 1 wherein,

the data transmitting device receives information indicative of the transmission interval of the respective data frames from the second communication system through the data transmitting and receiving part, and the data frames are successively transmitted at an interval no narrower than the transmission interval.

4. A data transmitting method comprising:

receiving, from a destination of data transmission, information indicative of a first data amount which can be successively received by the destination of data transmission, and

transmitting data frames whose amount corresponds to one data amount of the first data amount and a second data amount which can be successively transmitted to the destination of data transmission, the one data amount being no greater than the other data amount.

5. The data transmitting method as set forth in claim 4 wherein,

the second data amount is a data amount corresponding to the storage capacity of a data transmission memory for temporarily storing outgoing data, and

the first data amount is a data amount corresponding to the storage capacity of a data reception memory for temporarily storing incoming data in the destination of data transmission.

6. The data transmitting method as set forth in claim 4 wherein

information indicative of an interval, at which the respective data frames are transmitted, is further received from the destination of data transmission when receiving the information indicative of the first data amount from the destination of data transmission; and

the data frames are successively transmitted at an interval no narrower than the interval as indicated.

7. A data transmitting device comprising:

a data transmission mechanism which is configured to transmit data destined for a second communication mechanism in data frames to the second communication mechanism; and

a data reception mechanism which is configured to receive, from the second communication mechanism, information indicative of a first data amount which can be successively received by the second communication mechanism, wherein

the data transmitting device successively transmits, to the second communication mechanism, data frames whose amount corresponds to one data amount of the first data amount and a second data amount which can be successively transmitted by a data transmission mechanism, the one data amount being no greater than the other data amount.

8. A data communication system having at least two multiplex communication devices, comprising:

a first multiplex communication device which is configured to successively receive data frames from a second multiplex communication device, and transmit, to the second multiplex communication device, information indicative of a first data amount which can be successively received by the second multiplex communication device; and

the second multiplex communication device successively transmits, to the first multiplex communication device, data frames whose amount corresponds to one data amount of the first data amount and a second data amount which can be successively transmitted by said second multiplex communication device, the one data amount being no greater than the other data amount.

9. The data communication system as set forth in claim 8 wherein,

the second multiplex communication device transmits, to the first multiplex communication device, information indicative of an interval at which the respective data frames are transmitted, and

the first multiplex communication device successively transmits the data frames at a frame interval no narrower than the interval as indicated.

10. A data communication system provided with at least two data transmitting devices as set forth in claim 1.